

#4

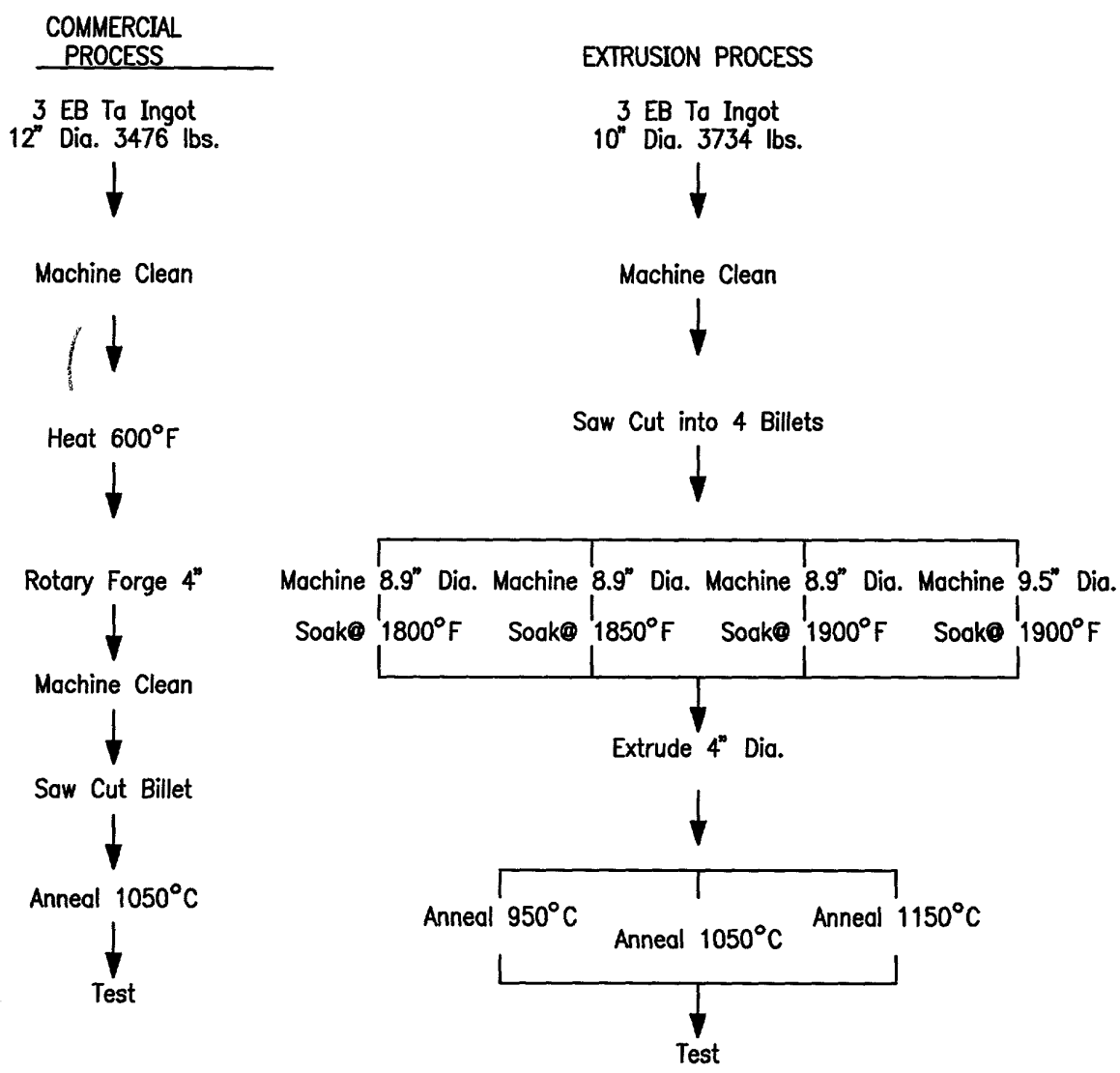


FIG. 1

PROCESS	SAMPLE LOCATION	950°C ANNEAL X 2 HOURS		
		Average Grain Size (μm)	Grain Size Range	Recrystallize (Percent)
Commercial Process	Center			
Commercial Process	Edge	46	<10-240	95
9.5"Ø, Extrude 1800°C	Center	40	<10-250	99
9.5"Ø, Extrude 1800°C	Edge	33	<10-240	80
9.5"Ø, Extrude 1850°C	Center	35	10-290	65
9.5"Ø, Extrude 1850°C	Edge	33	10-180	50
9.5"Ø, Extrude 1900°C	Center	35	<10-225	98
9.5"Ø, Extrude 1900°C	Edge	32	10-110	65
10.25"Ø, Extrude 1900°C	Center	28	<10-200	85
10.25"Ø, Extrude 1900°C	Edge			

FIG. 2(A)

PROCESS	1050°C ANNEAL X 2 HOURS			1150°C ANNEAL X 2 HOURS		
	Average Grain Size (μm)	Grain Size Range	Recrystallize (Percent)	Average Grain Size (μm)	Grain Size Range	Recrystallize (Percent)
Commercial Process	60	20-245	76			
Commercial Process	60	10-155	100			
9.5"Ø, Extrude 1800°C	45	10-150	95	60	10-150	100
9.5"Ø, Extrude 1800°C	35	10-135	100	75	10-200	100
9.5"Ø, Extrude 1850°C	65	<10-110	100	75	10-110	100
9.5"Ø, Extrude 1850°C	63	<10-110	100	62	10-145	100
9.5"Ø, Extrude 1900°C	32	10-180	100	86	10-145	100
9.5"Ø, Extrude 1900°C	32	<10-90	99	122	10-135	100
10.25"Ø, Extrude 1900°C	35	10-80	99	56	10-135	100
10.25"Ø, Extrude 1900°C	38	<10-110	100	70	10-160	100

FIG. 2(B)

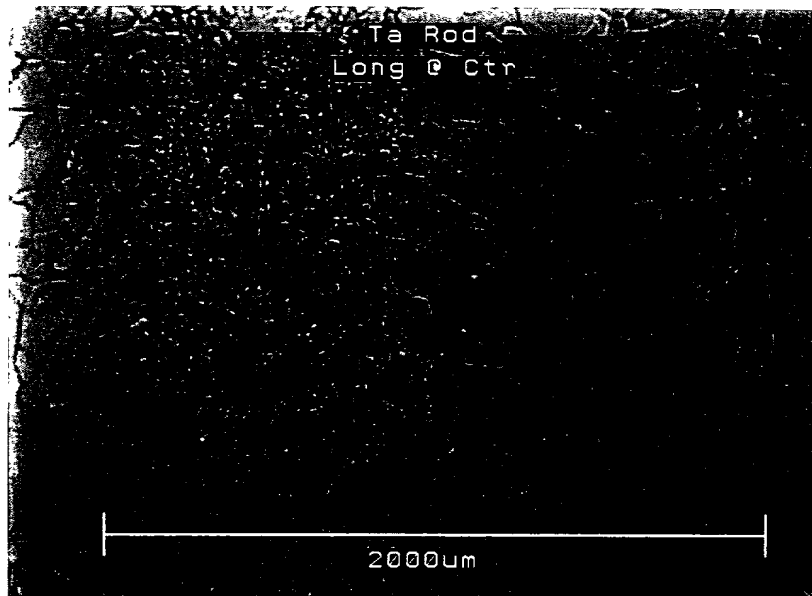


FIG. 3(A)

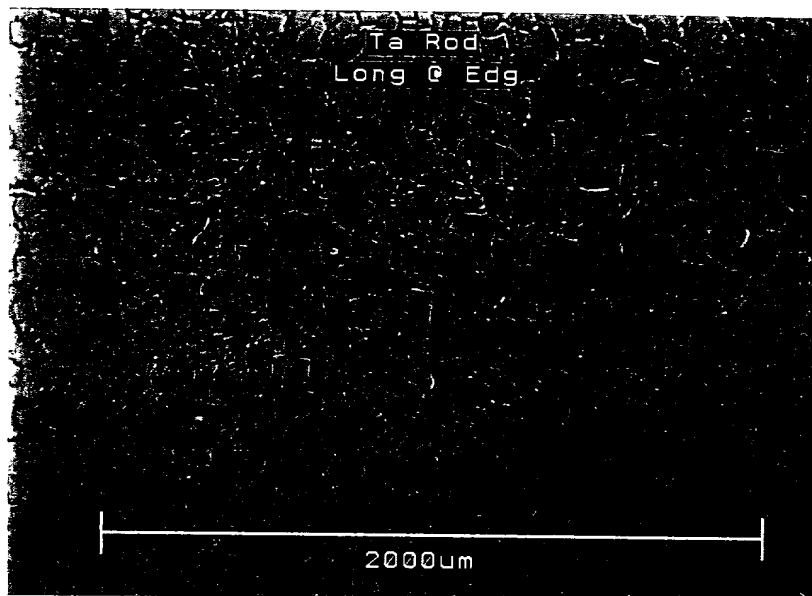


FIG. 3(B)

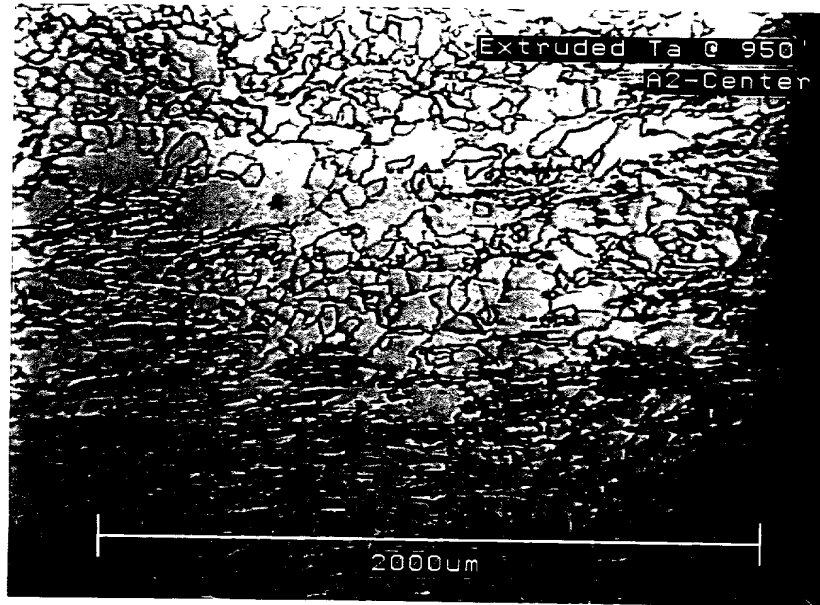


FIG. 4(A)

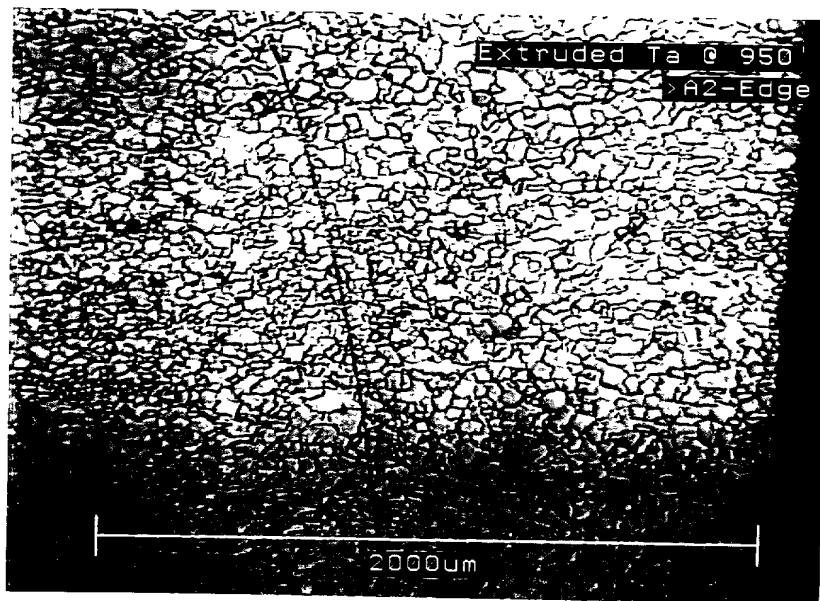


FIG. 4(B)



FIG. 5(A)



FIG. 5(B)

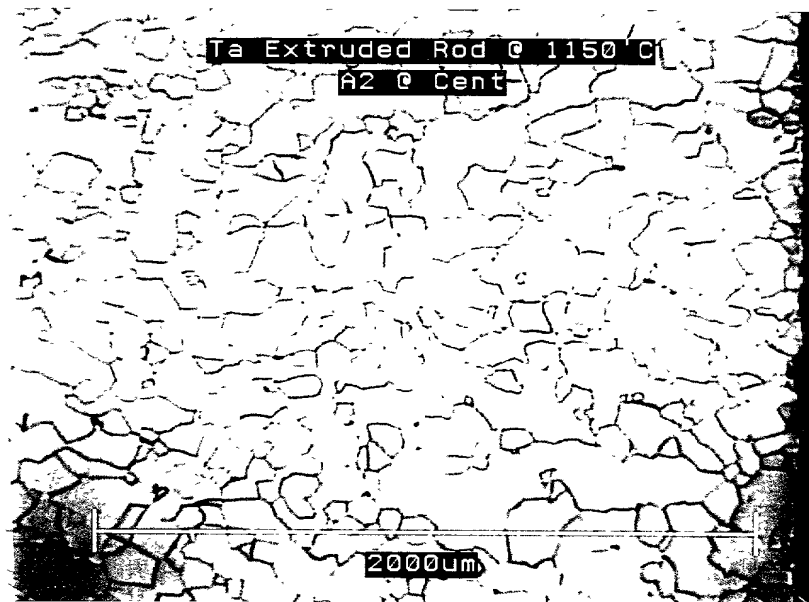


FIG. 6(A)

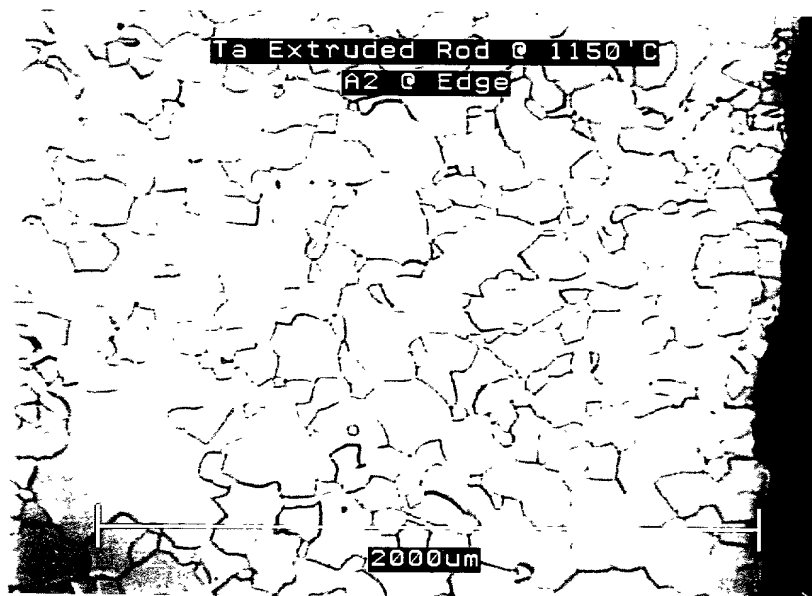


FIG. 6(B)

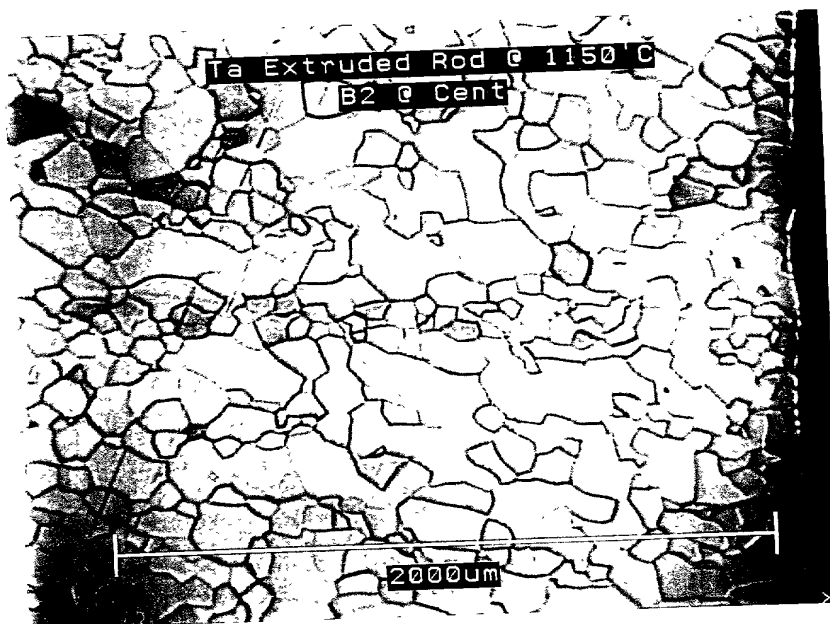


FIG. 7(A)

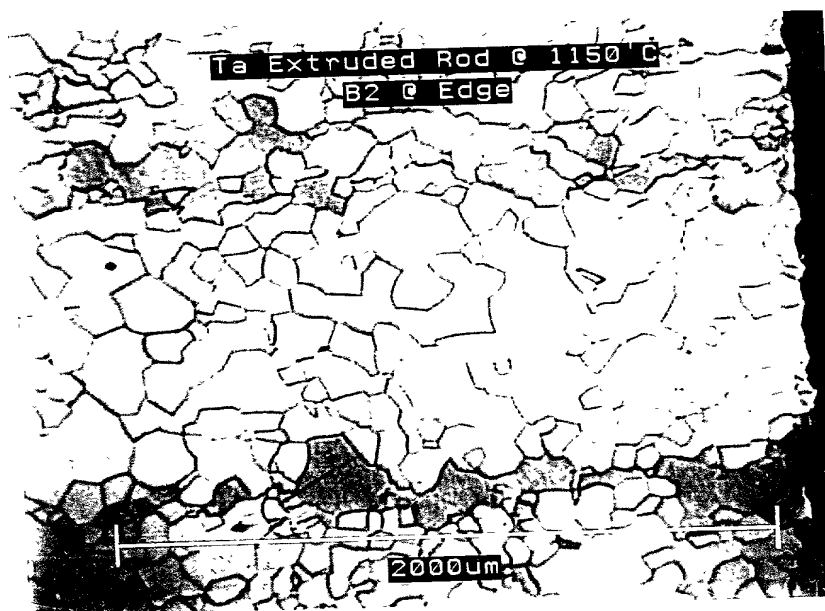


FIG. 7(B)

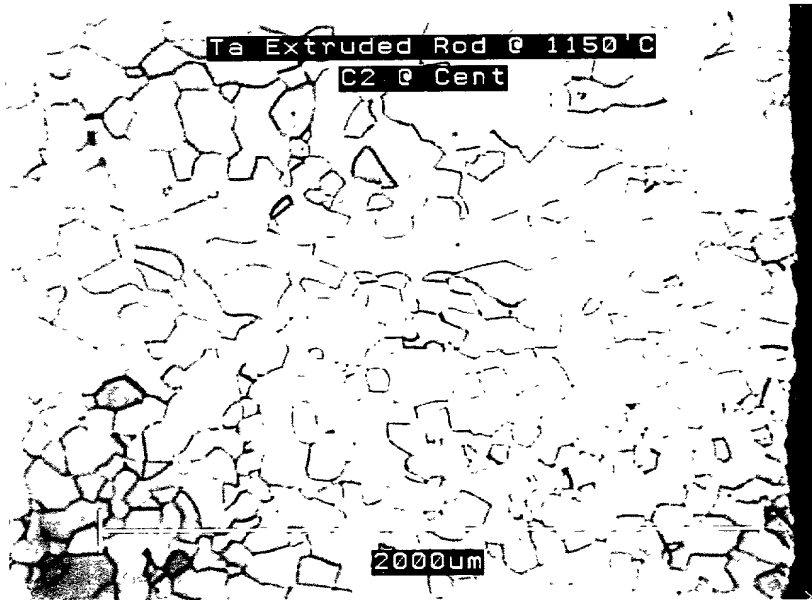


FIG. 8(A)

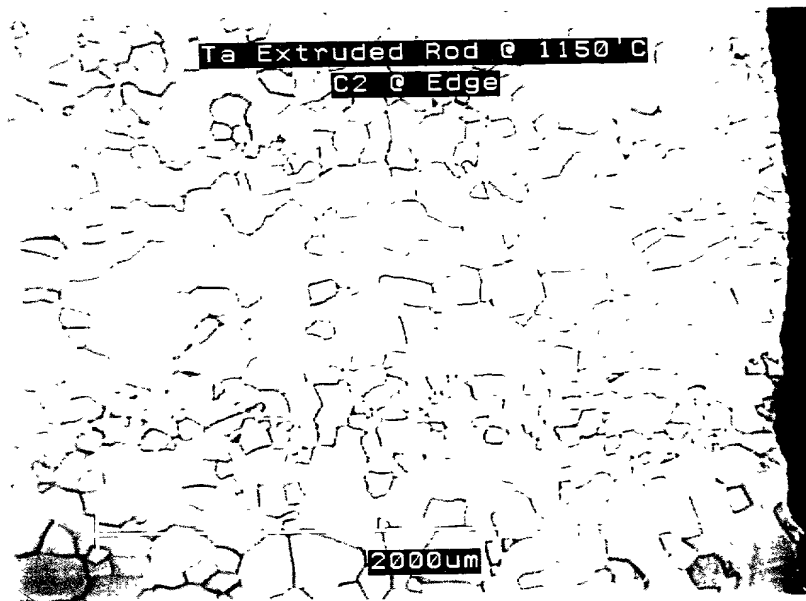


FIG. 8(B)

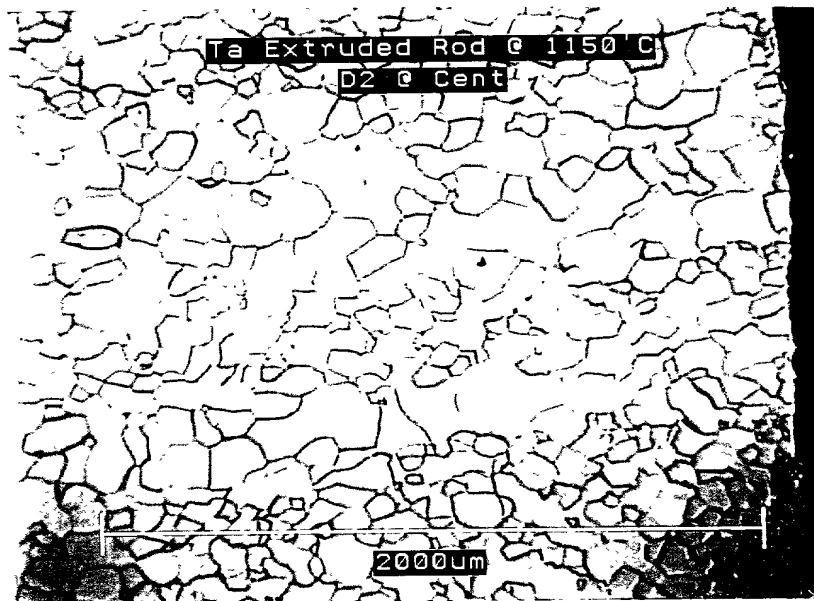


FIG. 9(A)

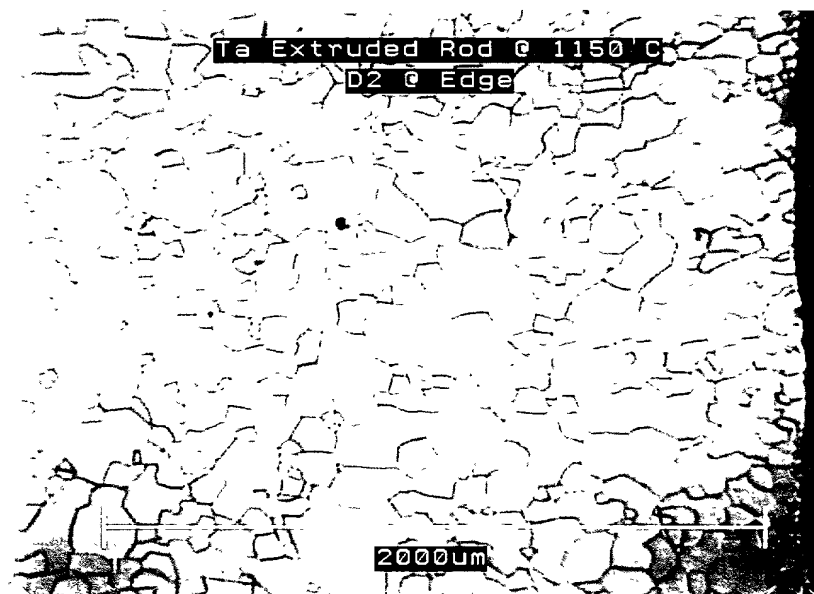


FIG. 9(B)